

Remarks

In the Office Action mailed January 14, 2004, the Examiner rejected all claims 1-9 as follows.

Claims 1, 5, 7, and 9 were rejected under 35 U.S.C. §112, first paragraph.

Claims 1-9 were rejected under §112, second paragraph.

In view of the remarks and clarifying amendments set forth herein, it is submitted that all claims 1-9 are in condition for allowance.

A. Rejection Under §112, First Paragraph Should be Withdrawn

In support of the rejection of claims 1, 5, 7 and 9, the Examiner asserted:

Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding Claim 1, it is unclear where the claimed flake alloy is taught. Rather, flakes having about 80 weight percent Zn and about 20 weight percent Al are taught. Regarding Claim 7, it is unclear where the claimed alloy flake, having an unspecified amount of zinc in a paste that contains 4-5 percent aluminum and 7-10 percent paste liquid, is taught.

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Claim 1 has been amended to include the term "about" in the recitation of the weight proportions of the zinc and aluminum in the zinc alloy flake. The revised terminology is supported by the present application as originally filed, such as on page 6, lines 19-25. The application as originally filed provides written description support for claim 1.

Claim 7 recites, in part, that the coating composition comprises "zinc alloy in flake form comprising a paste containing from about 4 to about 5 weight percent of aluminum in said alloy flake, and from about 7 to about 10 weight percent of paste liquid..." This preferred zinc alloy paste is described in the present application on pages 7 to 8. There, it is stated that:

The preferred alloy paste... is a paste of zinc and aluminum alloy in flake form typically containing from about 85 to about 86 weight percent zinc, from about 4 to

about 8 weight percent aluminum and a balance of from about 7 to about 10 weight percent paste liquid, all basis 100 weight percent of the paste. Such a paste containing from about 4 to about 5 weight percent of aluminum in the alloy is also of particular interest.

Accordingly, the written description requirement is satisfied. The application as originally filed provides written description support for claim 7.

In view of the foregoing amendments and explanations, it is submitted that the Examiner will recognize that the present rejection under §112, first paragraph, has been remedied and should now be withdrawn.

B. Rejection of Claims 1-9 Under §112, Second Paragraph Should be Withdrawn

The Examiner rejected claims 1-9 by alleging:

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. Regarding Claim 6, it is unclear what is meant by the phrase "both basis 100 weight percent of said paste, wherein said paste contains less than about 15 weight percent aluminum in said alloy flake on said metals basis, and up to about 10 weight percent paste liquid, basis weight of said paste." It is unclear how the content of aluminum and zinc can be considered to be 100 weight percent of a paste when the paste is also described as containing liquid.

II. Regarding Claim 7, it is unclear what is meant by the phrase "a paste containing from about 4 to about 5 weight percent of aluminum in said alloy flake, and from about 7 to about 10 weight percent of paste liquid, both basis 100 weight percent of said paste, wherein said paste contains less than about 15 weight percent aluminum in said alloy flake, on a metals basis, and up to about 10 weight percent paste liquid, basis weight of said paste." Should the underlined reference to "both" also include the amount of zinc or not? Does the underlined reference to paste liquid further limit the previous requirement of 7 to 10 percent paste liquid or is it superfluous?

III. Regarding Claim 8, it is unclear what is meant by the phrase "STAPA 4ZnA17." It appears to signify a trademark designation which would be indefinite since its meaning may vary over time. Applicant suggests that its meaning is clear because its composition as of the time of filing the application is specified in the Specification. Since the composition of the commercial paste may be changed, the claim is indefinite. The claim

can be rendered definite by replacing the trademark designation with the described composition of the Specification.

IV. Regarding Claims 1, 2, 4, 6, 7, and 8, it is unclear what is being admitted as the composition of the prior art. Applicant describes a "composition [that] contains particulate metal in a liquid medium" that is adapted for application to and curing on a substrate. It is unclear whether the claimed "liquid medium" is a substance to be cured or not necessarily. Does "liquid medium" only describe a physical state of a material in which the particulate metal is to be incorporated? It is unclear whether applicant's claim is to be interpreted as implicitly containing a substance in the coating composition, in addition to the particulate metal, that is to be cured. It is unclear whether the admitted curing is necessarily organic in nature, as, for example, the disclosed silanes, or not.

Pages 3-4 of the Office Action.

Claim 6 recites, in part, that the paste contains from about 85 to about 86 weight percent zinc in the alloy flake and from about 4 to about 8 weight percent aluminum in the alloy flake. Claim 6 continues and recites that both of these weight percent ranges are expressed in terms of the weight of the paste. These weight percent ranges are based upon the total weight of the paste as opposed to the weight of the alloy flake in the paste. Such aspects are frequently expressed in this manner in the coating industry.

The Examiner questioned how the content of aluminum and zinc can be considered to be 100 weight percent of a paste when the paste is also described as containing liquid. It is believed that the Examiner's concerns will be remedied once it is understood that the weight percentages of zinc and aluminum can be expressed based upon different characteristics of the paste such as the total weight of the paste and/or the total weight of the metals in the paste. For example, claim 6 further specifies aspects of the composition by reciting that the paste contains less than about 15 weight percent aluminum in the alloy flake based upon the total weight of metals in the paste and up to about 10 weight percent paste liquid, based upon the total weight of the paste.

Therefore, in regards to the Examiner's question, the aluminum and zinc do not necessarily constitute 100 weight percent of the paste. The paste contains additional components such as paste liquid. And, the paste may contain additional particulates such as metal particulates. This is addressed below. It is

believed that claim 6 is sufficiently definite as it recites specific weight percent ranges for the zinc and aluminum. The amount of zinc is expressed in terms of the weight of the alloy flake. The amount of aluminum is expressed in terms of the weight of the alloy flake, and also expressed in terms of the total weight of metals in the paste.

As for claim 7, the Examiner questioned the term "both" (referring to weight percent ranges for aluminum and liquid in the paste) and whether that term includes the amount of zinc. Again, it is believed that based upon the previously provided explanation, a careful reading of claim 7 will remedy the Examiner's concerns.

Claim 7 recites, in part, that the composition comprises zinc alloy in flake form comprising a paste that contains aluminum in the alloy flake and paste liquid. Claim 7 recites the amounts of these components based upon the total weight of the paste. That is, claim 7 recites the paste as containing from about 4 to about 5 weight percent aluminum in the alloy flake based upon the total weight of the paste. And, claim 7 recites the paste as containing from about 7 to about 10 weight percent of paste liquid, based upon the total weight of the paste. Claim 7 further recites that the paste contains less than about 15 weight percent aluminum in the alloy flake, based upon the total weight of metals in the paste. Claim 7 has been amended to delete the somewhat duplicative language concerning the weight proportion of the paste liquid.

The term "both" as used in claim 7 refers to the two previously recited weight percent ranges for aluminum and paste liquid. The term "both" refers to these ranges as based upon the weight of the paste.

Claim 8 has been amended to comply with the Examiner's request. No new matter is added by that amendment since support is found, for example, on pages 7 to 8 of the application as originally filed.

In claims 1, 2, 4, 6, 7, and 8, the Examiner questioned the term "liquid medium" as that term is utilized in the preamble of each of these claims. That term is described in the application such as on page 1 under "Background of the Invention." There, a representative coating composition is described that utilizes an alcohol medium. Additional previously known compositions are described including one that uses a liquid medium comprising "water plus high-

boiling organic liquid.” Additional water-based coating compositions are described on page 1 of the application. The use of non-water-based, i.e., organic liquids, is also noted on page 2. Coatings are also known that contain water-reducible components, such as those described on page 3 of the application. Moreover, on page 9 of the application it is noted that the term “liquid medium” also refers to a “liquid vehicle.” All of these are examples of the “liquid medium.”

In regards to the Examiner’s questions, these are set forth below with clarifying explanations.

Whether the claimed “liquid medium” is a substance to be cured or not necessarily?

The term “liquid medium” refers to any liquid vehicle. Representative examples are noted above. The vehicle may include one or more components that are to be cured, may be utilized to effect or influence cure, or have no involvement or association with the curing process. Generally, the primary function of the liquid medium is to serve as a vehicle for the coating component(s) and to aid in the application of the component(s) on a substrate. At some time prior to and/or during curing of the composition, the liquid medium, or at least a substantial portion thereof, is removed or driven off, from the coating.

Does liquid medium only describe a physical state of a material in which the particulate metal is to be incorporated?

The term “liquid medium” refers to any liquid vehicle for the coating component(s). The medium or vehicle is liquid at the conditions, i.e. pressure and temperature, at which the coating composition is generally stored. Thus, the term “liquid medium” does not “only describe a physical state of a material...” Instead, that term refers to the material itself, and additionally denotes that the material is a liquid.

Whether applicant’s claim is to be interpreted as implicitly containing a substance in the coating composition, in addition to the particulate metal, that is to be cured?

Claims 1, 2, 4, 6, 7, and 8 all recite a coating composition containing particulate metal in a liquid medium. The particulate metal constituency is recited as comprising zinc alloy in flake form. The Examiner will appreciate that the use of the term “comprising” is open-ended and so, includes the possibility of

additional components. This is further explained and apparent from a reading of the application.

It is to be understood that the zinc alloy flake may be present in a coating composition with other pulverulent metal, which is in non-flake form, e.g., zinc, aluminum, aluminum alloy, or mixtures thereof in pulverulent, non-flake form. Thus, this pulverulent metal in non-flake form may also be in non-alloy form. Such metal in other form may be incorporated with the paste, but more typically will be blended into the coating composition generally, although it could be used in both. Typically only minor amounts of such other pulverulent metal, in non-flake form, will be present in the coating composition, and the incorporation of such other metal is often avoided. Usually, the non-flake metal might be in powder form.

Page 8 of the application.

Whether the admitted curing is necessarily organic in nature, as, for example, the disclosed silanes or not.

Claims 1, 2, 4, 6, 7, and 8 do not contain any limitation that the curing must be organic in nature.

In view of the foregoing noted amendments and explanations, it is respectfully submitted that this ground of rejection has been remedied and the rejection should be removed.

C. Conclusion

In view of the foregoing, it is respectfully urged that claims 1-9 are in condition for allowance.

In the event that the Examiner has any other concerns or questions, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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